

small quarries were opened about one hundred years ago to supply the rock needed in the construction of the canal and the dam across the river. These quarries have been used little, if any, since that time. In the northernmost of these quarries, in soil that is practically nothing but disintegrated shale, produced by the erosion of the exposed and weathered rocks which form the northern and western sides of the quarry, *Isanthus brachiatus* has found a congenial home.

This finding of *Isanthus* at Suffield, twenty-five miles up the Connecticut river from Wethersfield, removes the taint of suspicion from the label on Wright's Wethersfield specimen and furnishes contributory evidence of the authenticity of Brace's record for this plant in Litchfield in 1822.

SUFFIELD SCHOOL, Suffield, Connecticut.

SPARGANIUM MULTIPEDUNCULATUM IN EASTERN AMERICA.

M. L. FERNALD.

WHEN Dr. A. J. Eames and I¹ studied the genus *Sparganium* in 1907, we recognized *S. simplex* Hudson as occurring from Newfoundland to British Columbia, south to Maine, Vermont, Colorado and California, with a poorly understood var. *multipedunculatum* Morong occurring from Mackenzie to Colorado and California. Characteristic sheets of the American plant which was passing in the East as *S. simplex*, in the West as *S. multipedunculatum* (Morong) Rydberg, were referred to the great student of the group, the late Professor Wladislaw Rothert, and they all brought from him such notes as the following:

"*S. affine* Schnitzl. (*S. angustifolium* Michx. of the American authors), typicum; forma robustior, foliis latis," or "Dubious. Intermediate between *S. simplex* Huds. and *S. affine* Schnitzl., nearer to *S. simplex*" or, on a Californian sheet, "Most of the Western specimens are clearly different from the European *S. simplex* Huds., and intermediate between this and *S. affine* Schnitzl. (*S. angustifolium* Michx. of the American authors), with individually different combinations of the characters of both. I have marked them as 'dubious.' Many of these 'dubious' specimens have been determined by Rydberg as *S. multipedunculatum* Rydb. or 'var. *multipedunculatum* Morong.'

¹ RHODORA, IX. 89 (1907).

It is not quite impossible that they are indeed a separate species, peculiar to the West of North America: but I am not able to find any characters of their own, constantly distinguishing them both from *S. simplex* and from *S. affine*; consequently I am rather inclined to consider them as non-hybrid transition forms between these two species. Most of the specimens do not fit Morong's description of his var. *multipedunculatum*."

That this intermediate American plant, an extreme specimen of which formed the basis of *S. simplex*, var. *multipedunculatum* Morong, is not satisfactorily referred to the European *S. simplex* is clear. The latter species has the linear-filiform stigmas commonly 2 mm. or more long and the staminate half of the inflorescence with 3-6 mostly remote heads; the "dubious" *S. multipedunculatum* having the thickish stigmas 1-1.8 mm. long and the 2-4 staminate heads approximate. In the latter character and in the form of its stigmas the "dubious" plant is close to *S. angustifolium* Michx. (*S. affine* Schnitzl.) and in my latest treatment¹ of the *Sparganiums* of northeastern America I treated the eastern material as broad-leaved *S. angustifolium*. During the past summer, however, after repeatedly seeing the latter species, Messrs. Bayard Long, K. M. Wiegand and I collected the broad-leaved plant in brooks at Blanc Sablon, Labrador and in the field it was so unlike *S. angustifolium* that a new study of it has been made. This results in the recognition in eastern America of *S. multipedunculatum*, a species heretofore considered distinctive of western North America. From *S. angustifolium* it at once differs in its coarser habit; its broader and flatter leaves which are scarcely dilated at base and which (seen by transmitted light) have much more remote nerves, larger fruiting heads and longer stigmas. In the East *S. multipedunculatum* occurs from southern Labrador to Lake St. John and south to Sable Island, Nova Scotia, Knox and Franklin Counties, Maine, Cheshire County, New Hampshire, and Orleans County, Vermont. Superficially it sometimes resembles coarse forms of *S. chlorocarpum* Rydberg, but that species differs in its more numerous and scattered staminate heads and in having the summits of the longer-beaked fruits ribbed.

The diagnostic characters of the three species, *S. chlorocarpum*, *S. angustifolium* and *S. multipedunculatum*, and a citation of eastern specimens of the latter are given below.

¹ RHODORA, XXIV. 31-34 (1922).

- Staminate half of inflorescence 2–10 cm. long, of 4–9 mostly scattered heads (if shorter and with fewer heads, the plant very low and with erect lower bracts): fruit distinctly ribbed at summit between the 3 angles; its beak about equaling the body: tips of sepals appressed to the fruit: plants commonly erect and emersed. *S. chlorocarpum*.
- Staminate half of inflorescence 1–3 cm. long, of 1–4 (rarely—6) mostly crowded heads: fruit only faintly if at all ribbed between the often obscure angles; its beak much shorter than the body: tips of sepals loosely ascending or spreading: plants commonly aquatic and with long floating leaves and lower bracts.
- Leaves rounded on the back, 1.5–4 (rarely—5) mm. wide; the middle and upper ones and the bracts with dilated and subinflated sheathing bases; the strong nerves of the principal ones (seen on under surface) mostly 0.2–0.8 mm. apart: pistillate heads 1–3, in maturity 1.2–2 cm. in diameter: stigmas 0.6–1.5 mm. long. *S. angustifolium*.
- Leaves flat and ribbon-like, scarcely dilated or inflated at base, 5–12 mm. wide; the strong nerves of the principal ones 0.8–2 mm. apart: pistillate heads 1–5, in maturity 2–2.5 cm. in diameter: stigmas 1–1.8 mm. long. *S. multipedunculatum*.

SPARGANIUM MULTIPEDUNCULATUM (Morong) Rydberg, Bull. Torr. Bot. Cl. xxxii. 598 (1905). *S. simplex*, var. *multipedunculatum* Morong, *ibid*, xv. 79 (1888). *S. simplex* of recent eastern Am. authors, not Huds.—Lakes, ponds and pools, southeastern Labrador to Alaska, south to Newfoundland, Nova Scotia, Maine, New Hampshire, northern Vermont, Colorado and California. The following eastern specimens belong here. LABRADOR: brooks entering Blanc Sablon River, *Fernald, Wiegand & Long*, no. 27,315. NEWFOUNDLAND: Virginia Water, St. John's, *Robinson & Schrenk*, no. 200; muddy ponds, Chimney Cove, *Waghorne*, no. 82. QUEBEC: shallow pool, River Etamamion, Charnay, *St. John*, no. 90,076; embouchure de la rivière Ouiatchouan, Val-Jalbert, Lac Saint-Jean, *Victorin*, no. 15,976; Lake Pratt, Co. Temiscouata, *Victorin*, no. 692. MAGDALEN ISLANDS: shallow water near the margins of brackish ponds southwest of Étang du Nord village, Grindstone Island, *Fernald, Long & St. John*, nos. 6756 (distributed as *S. angustifolium*, approaching *S. simplex*), 6757; lagune de l'Étang-du-Nord, *Victorin & Rolland*, no. 9460. PRINCE EDWARD ISLAND: pool bordering a bog, Brackley Point Road, *Fernald, Long & St. John*, no. 6759: border of a fresh pond, back of sand hills, Tracadie, *Fernald & St. John*, no. 10,893 (distributed as *S. chlorocarpum*). NOVA SCOTIA: sandy margin of Pottle's Lake, North Sydney, *Bissell & Linder*, no. 19,670; brackish lake, Sydney Mines, *Bissell & Linder*, no. 19,672: Sable Island, *John Macoun*, no. 22,637. MAINE: Pettiquaggamis (Glazier) Lake, August 8, 1893, *Fernald*: Farmington, August 13, 1894, *Fernald*: small pond back of beach, Head Harbor Island, Jonesport, *Cushman & Sanford*, no. 1561; Black Duck Pond, Matinicus, July 13, 1919, *C. A. E. Long*. NEW HAMPSHIRE: margin of Warren Pond, Alstead,

Fernald, no. 553. VERMONT: outlet of Long Pond, Willoughby, July 14, 1896, *G. G. Kennedy*; July 26, 1896, *E. F. Williams*.

GRAY HERBARIUM.

LIMODORUM TUBEROSUM L.

K. K. MACKENZIE.

THE first volume of Gronovius, *Flora Virginica*, is said to have appeared in 1739. In this work Gronovius was assisted by Linnaeus (*Jackson Linnaeus* p. 165).

Very fully and carefully described in this work (p. 110) was a plant from Virginia collected by Clayton to which the name *Limodorum* was given. There has never been the slightest question on the part of any botanical author about the identity of the plant so described. It is the plant which has appeared in our manuals of botany either as *Limodorum tuberosum* or *Calopogon pulchellus*.

The description given by Gronovius is as follows:

“*Limodorum*

Helleborine Virginiana bulbosa, flore-atrorubente. Banist. Plukn. Alm. p. 182.

Gladiolo Narbonensi affinis Planta Mariana, floribus minoribus. Pet. Mus. n. 413.

Orchis verna testiculata aquatica, flore pulcherrimo specioso rubro in spicam tenuem disposito, foliis longis angustis. Clayt. n. 76.

Helleborine radice tuberosa, foliis longis angustis, caule nudo, floribus ex rubra pallide purpurascens Martyn. Cent. I. T. 50. hujus videtur varietas.

Cal. nullus, cujus loco Germen.

Cor. Petala quinque, ovato-lanceolata, aequalia. Labium inferius constituit Nectarium lineare, longitudine petali longitudinaliter barbatur, apice cordato.

Stam. Filamenta vix conspicua. Antherae binae, adnatae corpori lineari arcuato, longitudine corollae, apice appendiculato.

Pist. Germen columnare, longitudine corollae, sub receptaculo floris. Stylus filiformis, adnatus corpusculo lineari. Stigma concavum.

Peric. Capsula columnaris, trivalvis, angulis dehiscens.

Sem. numerosa, scobiforma.”

In 1740 there also appeared another work with which Linnaeus had a great deal to do. I refer to Royen, *Florae Leydensis Prodrromus*, which is so constantly cited by Linnaeus in his own works as “Roy. lugdb.” On page 16 of this work the same plant is again to be found very fully and accurately described.